

ABSTRACT

Screening methods for identifying molecules that interact with and/or regulate accumulation and stabilization of unstable proteins are provided. The screening methods involve generation of chimeric proteins comprising a region of an unstable protein linked to a region of a marker gene product. Changes in the levels of the unstable protein, due to accumulation, and/or stabilization and/or hyperaccumulation are then determined by analyzing the change in the marker gene product level. The marker gene product can be an antibiotic resistance gene that confers antibiotic resistance by stoichiometrically binding to the antibiotic or it can be a fluorescent protein region. Thus, antibiotic resistance screening or fluorescence imaging or cell sorting methods can be used to detect changes in the levels of the unstable chimeric proteins. Unstable proteins suitable for this screening method include, but are not limited to, membrane proteins such as ion channels, receptors, or presenilins.